REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-18 are pending in the present application. Claims 1-17 are amended and Claim 18 is added by the present amendment.

In the outstanding Office Action, Claims 4-17 were objected to; Claims 1-3 were rejected under 35 U.S.C. §112, second paragraph; and Claims 1-3 were rejected under 35 U.S.C. §102(a) or (e) as anticipated by Holm-Kennedy (U.S. Patent 5,466,348).

Regarding the objection to Claims 4-17, these claims have been amended to not be in multiple dependent form. No new matter has been added. Accordingly, it is respectfully requested this objection be withdrawn.

Regarding the rejection of Claims 1-3 under 35 U.S.C. §112, second paragraph, these claims and also Claims 4-17 have been amended as suggested by the outstanding Office Action and to clarify the claimed invention. No new matter has been added.

Regarding numbered item VI on page 3 of the outstanding Office Action, independent Claim 1 has been amended to recite at least one point of at least one of a drain current, source-gate voltage, and source-drain voltage is measured. It is known that the characteristics of a transistor are generally expressed by a family of curves according to parameters as the drain current I_D, gate-source voltage U_{GS}, and source-drain voltage U_{SD}. The claimed process allows to determine a parameter representative of the molecular probes fixed to active zones of a sensor, by comparing for two active zones belonging to two different transistors immerged in the measuring solution, a point of the characteristic of each transistor. More specifically, for two transistors, one of three possibilities is selected, i.e., U_{GS} and U_{SD} are set and two values for I_D are measured and then compared to each other, or

U_{GS} and I_D are set and two values of U_{SD} are measured and then compared to each other, or U_{SD} and I_D are set and two values of U_{GS} are measured and then compared to each other.

Accordingly, it is respectfully requested this rejection be withdrawn.

In view of the rejection of Claims 1-3 under 35 U.S.C. §102(a) or (e) as anticipated by Holm-Kennedy, independent Claim 1 has been amended to more clearly recite that the two different active zones are immerged in an electrolyte solution and at least one point of at least a drain current, source-gate voltage, and source-drain voltage characteristic is measured. The claim amendments find support in Figure 1 and its corresponding description in the specification. No new subject matter has been added.

Briefly recapitulating, amended Claim 1 is directed to a method for detecting at least one parameter representative of molecular probes fixed to active zones of a sensor. The sensor includes a network of field-effect transistors, each of which has a source region, a drain region, and a gate region which forms one of the active zones on which the representative parameter is detected. The method includes, *inter alia*, measuring at least one point of at least one of a drain current, a source-gate voltage, and a source-drain voltage characteristic of at least two field-effect transistors of a first group corresponding to at least an active zone brought into contact with molecular probes, so as to deduce therefrom at least one representative parameter by comparison between at least two measurements obtained for two different active zones immerged in an electrolyte solution.

In a non-limiting example, Figure 1 shows two transistors T_1 and T_2, each having the drain region D, the source region S, and the gate region 4 and 4', which is the active region. Each transistor has the active region 4 and 4' immerged in the electrolyte solution 6.

The claimed method advantageously circumvents difficulties associated with the sensitivity of an individual sensor to the pH and ionic strength and those associated with the

variability from one individual transistor to another transistor as disclosed for example in the specification at page 7, lines 31-37.

Turning to the applied art, Holm-Kennedy discloses a method and application for detecting and measuring the presence of a binding target material on a semiconductor device. Holm-Kennedy discloses providing a wet or dry measurement without requiring a reference electrode and preferable a dry measurement to avoid ionic shielding problems and low sensitivity associated with background art wet measurements, as discussed at column 4, lines 53-55 and at column 5, line 62 to column 6, line 2.

The outstanding Office Action asserts that Holm-Kennedy discloses at column 10, lines 9-39 the claimed step c). Holm-Kennedy discloses at column 10, lines 9-39 the device shown in Figures 3A-6F. However, Figures 3A-6F show only one transistor and thus, only one active zone and not plural transistors and plural active zones as required by Claim 1.

In this regard, it is noted that Claim 1 recites that the measuring of at least one of a drain current, a source-gate voltage, and a source-drain voltage characteristic of at least two field effect transistors of a first group and a comparison between at least two measurements obtained for **two different active zones**.

Therefore, Applicants respectfully submit that Holm-Kennedy does not teach or suggest comparing at least two measurements obtained for two different active zones to detect a parameter representative of whether the molecular probes are fixed to active zones because Figures 3A-6F, to which column 10, lines 9-39 of Holm-Kennedy refer to, show only a single transistor and a single active zone.

Further, the transistor of Holm-Kennedy is equipped with several gates, for example a top gate 60 which floats at the test solution potential as disclosed at column 7, lines 54-57, a buried conducting gate 600 and a backgate (62, 270). To measure an attachment of the binding target, the device of Holm-Kennedy changes a backgate voltage to restore a reference

parameter such as a source-drain current. Thus, Holm-Kennedy increases the sensitivity of the measurement as disclosed at column 10, lines 26-29.

However, there is no simultaneous comparison or differential measurement between two different active zones in Holm-Kennedy which allows, according to Claim 1, to avoid the experimental variations which are encountered in practice.

Therefore, Applicants respectfully submit that amended Claim 1 and each of the claims depending therefrom patentably distinguish over Holm-Kennedy.

New Claim 18 has been added to depend from Claim 1 and recites that a potential of the electrolyte solution, which covers the active zones, is fixed. New Claim 18 finds support in the originally filed specification. No new subject matter has been added.

It is noted that Holm-Kennedy does not teach or suggest an electrode in the electrolyte solution as Holm-Kennedy is avoiding such an electrode by controlling the voltage of the backgate of the transistor. Therefore, Applicants respectfully submit that new Claim 18 also patentably distinguishes over Holm-Kennedy.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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